

page 4, last two lines through the top of page 5. Moreover, Weigl explicitly teaches in the brief description of Fig. 4 that the micro channel configuration has multiple product channels to separate different sized particles.”

It appears that the Examiner has suggested that it is the multiple product channels that achieve separating different sized particles in Weigl et al. However, Applicants respectfully submit that in the device illustrated in Fig. 4 of Weigl et al, one reads in col. 23, lines 22 – 32 of Weigl et al that sample stream 2 contains large particles, medium-sized particles, and small particles. Sample stream 2 meets with an extraction stream 4 to form a laminar flow in extraction channel 7 in Weigl et al. In extraction channel 7, small particles with larger diffusion coefficients, which diffuse most rapidly in the lateral direction towards first product outlet channel 24, exit the device through first product outlet 23 in Weigl et al.

Applicants respectfully direct Examiner’s attention to the fact that the first product outlet channel 24, like all the additional product outlet channels seen in Fig. 4 of Weigl et al, has a diameter much larger than the diameter of all the particles involved. That means, all particles, i.e. large particles, medium-sized particles, or small particles, that find their way to the entrance of any product outlet channel are allowed to pass through this channel. In other words, it is not the product outlet channels that are designed so as to perform the size-oriented particle selection or sorting process. Instead, and in sharp contrast to the Applicants’ invention, it is the difference in lateral diffusion velocity of the different particles within the sample stream in extraction channel 7 in Weigl et al, that results in the “addressing” of particular product outlet channels out of a multitude of product outlet channels of equal dimensions. Since the lateral diffusion velocity is related to the particles size (see Weigl et al, col. 22, lines 13 – 37) different classes of particles according to their size will “address” different product outlet channels.

Applicants respectfully submit that Applicants' comments are also supported by the following statements that can be found in Weigl et al, col. 23, lines 33 – 43: "Medium-sized particles with medium-range diffusion coefficients exit along with small particles through second product outlet 26 in second exiting product stream 28 through second product outlet channel 27 placed further from sample stream inlet 1 than first product outlet channel 24 so as to allow more time for medium-sized particles to diffuse into the extraction stream. Large particles which have smaller diffusion coefficients and which diffuse more slowly exit third product outlet 29 in third exiting product stream 31 through third product outlet channel 30, along with small and medium-sized particles."(Emphasis added) These statements in Weigl et al demonstrate that whatever particles are arriving at the entrance of any of the product outlet channels will pass through. One can also observe from these statements in Weigl et al that the separation effect for particles of different size is not perfect in a device according to Weigl et al. In Applicants' invention all of the larger particles will be held back, and the separation is perfect.

In summary, the device of Weigl et al has output channels for receiving and passing through of particles of any size. Size-separation is achieved by taking advantage of a fluid-dynamic process wherein the particle size has an impact on the fluid dynamics so that particles of different size are arriving at equal output channels that are positioned at different locations. In Applicants' invention, the channel structure is so designed that particles of interest are held back, and therefore "concentrated", at the entrance of the channels. Consequently, Applicants respectfully submit that it would not have been obvious to utilize the teachings of Weigl et al to use output channels with diameters much larger than particles of interest in order to concentrate such particles. Withdrawal of the present rejection under Section 103(a) is respectfully requested.

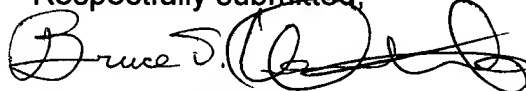
Applicants note with appreciation that the Examiner has found Claims 9-12 and 15-18 to be allowable if rewritten in independent form.

In view of the above Remarks, it is believed that all of the claims of the present application are believed to be in condition for allowance. Early notice thereof is respectfully requested by Applicants.

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Respectfully submitted,

A handwritten signature in black ink, appearing to read "Bruce S. Weintraub", written over a circular stamp or seal.

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